

Claims

It is claimed:

5 1. A method for detecting a target nucleic acid sequence, comprising

- 10 a) obtaining isolated nucleic acid sequences from a sample suspected of containing a target nucleic acid sequence;
- b) contacting a protection molecule with the nucleic acid sequences under hybridizing conditions sufficient to form a PNAS; and
- c) detecting the PNAS.

15 2. The method of Claim 1, further comprising the steps of

- 20 a) digesting the isolated nucleic acids containing one or more PNAS with nucleolytic enzymes to form a PNAS/tail; and
- b) hybridizing a capture molecule to the PNAS/tail;
- prior to the step of detecting the PNAS.

25 3. The method of Claim 2, further comprising the steps of

- 30 a) hybridizing of a reporter molecule to the PNAS/tail;
- prior to the step of detecting the PNAS.

 4. The method of Claim 1, wherein the PNAS comprises a triplex structure.

5. The method of Claim 1 wherein the PNAS comprises a duplex structure.

6. The method of Claim 1 wherein the PNAS comprises a protein.

7. The method of Claim 1 wherein the target nucleic acid sequence comprise microbial nucleic acids.

8. The method of Claim 2, wherein the target nucleic acid sequence comprise microbial nucleic acids.

9. The method of Claim 3, wherein the target nucleic acid sequence comprise microbial nucleic acids.

10. The method of Claim 7, wherein the microbial nucleic acids comprise viral nucleic acids.

11. The method of Claim 8, wherein the microbial nucleic acids comprise viral nucleic acids.

12. The method of Claim 9, wherein the microbial nucleic acids comprise viral nucleic acids.

13. A method for detecting specific nucleic acid sequences, comprising

- a) obtaining isolated nucleic acid sequences from a sample suspected of containing a target nucleic acid sequence;
- b) contacting a protection molecule with the nucleic acid sequences under hybridizing conditions sufficient to form a PNAS;
- c) digesting the isolated nucleic acids containing one or more PNAS with nucleolytic enzymes to form a PNAS/tail;
- d) hybridizing a capture molecule to the PNAS/tail;
- e) hybridizing of a reporter molecule to the PNAS/tail; and
- f) detecting the PNAS.

14. The method of Claim 13, wherein the target nucleic acid sequence comprise microbial nucleic acids.

15. The method of Claim 14, wherein the microbial nucleic acids comprise viral nucleic acids.

16. Compositions for detecting specific nucleic acid sequences, comprising a protection molecule capable of binding with a specific nucleic acid sequence.

17. The composition of Claim 16, further comprising a capture molecule.

18. The composition of Claim 17, further comprising a reporter molecule.